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How to Forecast Weather by Nature

For countless millennia, primitive and not so primitive societies have depended upon close observation of nature to forecast both short and long range changes in the weather.

Without the aid of modern scientific methods of reading weather patterns, it was necessary for him to develop a keen eye for natural "predictors" which predicted change.

Where was man to turn? To nature of course! An intimate knowledge of his environment already served to feed, clothe and medicate primitive man. So, when it came time to explain and predict the mysteries of nature, he instinctively turned to that source for an answer.

Primitive man was not so primitive as we might think. Even though he may have had to use mythological creatures in the sky and other "uneducated" methods to explain his perceptions, he still knew that if he saw birds roosting close to the ground, rain or snow was imminent, large crops of acorns presage a harsh winter, and the clarity of those mysterious twinkling lights in the sky at times told him that the weather was about to change.

Today, many educated people will dismiss old time weather lore as fables simply designed to explain mysteries of nature that primitive man could not explain any other way.

On the other hand, in a time with modern forecasters usually accurate only about 50% of the time, most people can remember at least one weather saying their parents or grandparents swore by. Do you ever remember as a child smelling that clean, fresh air the came before a rain, or the sound of crickets and frogs greeting the arrival of new moisture?

Not all weather predictions worked, but many did indeed have a basis in scientific fact. Let's take a look at some that have been around a long, long time and the reasons that some of them actually do work.

The Moon

The moon has always been a source of fascination and wonder for primitive man. It was also one of the main weather predictors found in folklore that many times does have a scientific basis.

"If the new moon holds the old moon in her bosom the weather will be fair." This occurs due to clear, stable and dry air proceeding a high pressure system. It is this clarity that enables you to see the dark part of the crescent moon holding the old moon. This is usually a good predictor of 24 to 48 hours good weather.

"A ring around the moon brings rain or snow." Another similar saying is, "When the moon is in her house, rain or snow will come." When the moon has a halo or ring around it, this is due to cirrus clouds in the higher altitudes. Cirrus and cirrostratus clouds typically proceed low pressure systems bearing moisture. These clouds also contain ice crystals which refract the light giving the impression of a ring. By counting the number of stars contained within the ring, you can fairly accurately predict how far away the rain or snow will be. Each star represents approximately 24 hours of time. A faint star always gets 12 hours as far as I'm concerned. I've seen this work time after time never seeming to fail.

"If the crescent moon is tipped on it's side (horns pointing up) it's going to rain or snow." This one is up to you. I always go by this as being a predictor of rain since the moon is bowl shaped and is filling with water to rain on you. If the horns are tipped to the side, some people believe that the water is going to pour out on you. Still others books will say that this changes every so many years and you have to just keep a weather eye on it.

"If the moon's face is red, of water she speaks." This saying of the Zuni Indians of the Southwest is very accurate. The red color is due to the presence of dust being pushed ahead of a low pressure front bringing in moisture.

The Sun

While not used as a weather predictor as often as the moon, the sun does offer some hints to future weather changes.

Sun Dogs

If you look up around the middle of the day and see a rainbow or white band around the sun, look for a drastic change in the weather within 12 - 24 hours. If the weather is clear, plan on stormy weather and if the weather is dreary, plan on fair weather to arrive. A Sun Dog is the equivalent of a halo around the moon. If the weather is foggy and you see a sun dog, expect the fog to clear shortly.

Red Sun

A red sun at dusk or dawn indicates dry weather. Compare this with a red sky at dusk or dawn as some people tend to confuse these two.

Rainbows

Rainbows play an integral part in weather predictions. Halos around the moon and sun dogs are both rainbows. A rainbow is also an obvious predictor of rain as refracts the light and breaks it down into colors.

Rainbows in the morning to the west indicates approaching rain, while a rainbow at sunset indicates that the rain is leaving and fair weather is on the way.

Red Sky

A red sky at either dusk or dawn is one of the more spectacular and beautiful weather predictors we have in nature. By closely observing this phenomenon, you can achieve short range accuracy of the weather as good as, or better than your local weather man. In the Bible, Jesus in Matthew 16, 2-3 is quoted as saying, "When it is evening, it will be fair weather: for the sky is red. And in the morning it will be foul weather today: for the sky is red" when speaking to the pharisees. An old English weather proverb based on this passage is:

*Red sky at night, sailors delight
Red sky at morning, sailors take warning*

OR

*Evening red and morning gray,
sends the traveler on his way.
Evening gray, morning red,
brings the rain down on his head.*

At dusk, a red sky indicates that dry weather is on the way. This is due to the sun shining through dust particles being pushed ahead of a high pressure system bringing in dry air. A red sky in the morning is due to the sun again shining through dust. In this case however, the dust is being pushed on out by an approaching low pressure system bringing in moisture. Don't confuse a red sky in the morning with a red sun in the morning. If the sun itself is red and the sky is a normal color, the day will be fair.

Atmospheric Pressure

As the air pressure around you either rises or falls, many changes in nature occur. Most of these are very obvious changes while others are of a more subtle nature.

If you find yourself out in a marsh or swamp and the air really seems to stink more than normal, expect rainy weather. This happens when the pressure drops and the methane trapped on the bottom of the swamp is released in greater quantities. In reverse, as fair weather approaches and the pressure rises, things won't smell quite so strong.

Mountains and other far away objects will appear to be much closer and more sharply focused as wet weather approaches and the air pressure drops. The dust particles in the air begin to settle to the ground and the air clears allowing you to see more details of faraway objects. As a high pressure front approaches and the air becomes thicker, more dust particles become suspended in air and things take on their normal somewhat hazy appearance. Sound too becomes sharper and more focused prior to stormy weather. Instead of traveling upward and outward into the atmosphere they are bent back to the earth and their range extended. Birds' calls sound sharper and at my house we can hear the blowing of the train horn as it rumbles through the valley below.

"Sharp horns on the moon threaten bad weather." This and a bright, clear moon are good indicators that wet weather is on the way. As the air clears of dust particles ahead of a low pressure system, the mood appears to become closer and more sharply focused due to the lack of dust.

Remember a grandparent talking about how their corn, bunions or joints ached right before a rain? Again, this is due to the decreasing atmospheric pressure allowing the gas in our bodies to expand.

Birds and bats have a tendency to fly much lower to the ground right before a rain due to the "thinning" of the air. They prefer to fly where the air is the most dense and they can get greater lift with their wings. With high pressure and dry air, the atmosphere becomes more dense and they can easily fly at higher altitudes. Some references state that birds and bats fly lower to the ground to ease the pain in their ears due to the lowered pressure. I don't believe this has any basis in fact however.

Smoke rising straight into the air means fair weather and smoke hanging low means rain is on the way. This is pretty much the same as with the birds and methane in the swamp. With the high pressure approaching and the air becoming denser, smoke will rise whereas with low pressure it can't rise and tends to lay low.

Clouds

An ability to accurately read cloud formations is invaluable in predicting the weather. For a more detailed look into this, consult a good book on the weather. Each type of cloud is caused by specific actions in nature building up to fair weather, rainy weather, tornados, hail, etc.

*Mare's tails and mackerel scales
make tall ships carry low sails*

Mare's tails are actually cirrus clouds. They are high in the atmosphere and are pulled into long streamers resembling the tail of a mare. The mackerel scales are altocumulus clouds. If a sailor noticed these, he knew that within 12 to 36 hours, the weather would be way too rough to be out on the open water.

Plants and Animals

Both of these seem to be uncanny in their ability to predict both good and bad weather. Dogs and cats are notorious for knowing when a tornado or earthquake are imminent. Birds roost early and feed heavily before a rain or snow and pigs and squirrels gather more debris to insulate themselves from cold weather.

Plants and certain fungi such as Rainstars can accurately forecast the certainty of wet and dry weather. Chickweed, dandelions, bindweeds, wild indigo, clovers, and tulips all fold their petals prior to the rain. Rainstars, a type of fungus, opens up prior to a rain and closes in dry weather. Mushrooms abound when the weather is moist as well as do mosses and seaweeds. In fact, seaweeds exposed on the rocks at low tide seem to swell and rejuvenate in the high humidity proceeding wet weather. When the atmosphere reaches about 80%

humidity, the bog pimpernel closes and gives rise to this old weather saying:

*Pimpernel, pimpernel, tell me true
Whether the weather be fine or no;
No heart can think, no tongue can tell,
The virtues of the pimpernel.*

Long Range Forecasting

Not all of these sayings hold true every time under every circumstance, but you might be surprised at just how accurate they tend to be. I remember back to the blizzard of 1993 and how amazed my friends were when the previous fall I was able to predict to the week that we would be having an enormous snowfall that spring. To say the least, there were a lot of surprised people when we ended up being snowed in for a week with the blizzard of the century.

There are a lot of signs for forecasting the weather a long way out with some of them being more accurate than others, but with all of them being controversial. I agree with the folklore that says you can figure on a bad winter if there is a heavy crop of acorns, animals put on heavy coats or store up a lot of food. Don't forget the woolly worm either. Some people believe that the wider the brown part of a woolly worm, the colder the winter, while others believe that the wider the black part, the colder the weather. Go figure!

Here are some interesting odds and ends you might want to keep an eye on:

- When you hear the first cicada of the summer, expect the first frost of the year in exactly 90 days.
- The last Sunday of the month predicts the weather for the next month.
- Ice in November to bear a duck, the rest of the winter will be slush and muck.
- If fog forms on water in the fall or spring, a frost is on the way.
- Spiders will spin thicker, bigger webs in when the weather is going to be dry.
- A foggy morning with dew on the grass indicates a clear day.
- Crickets chirping loudly indicate a pleasant day to follow.
- A clear, white moon tells you that the next day will be nice.
- Cumulonimbus clouds forming rapidly in the mountains on warm afternoons presage an intense lightening storm is on its way in minutes.
- Cobwebs on the grass are a sign of fair weather.

This year, carefully observe the "signs" and see for yourself how accurate they can be. Whether you are on the trail hiking somewhere, canoeing in the middle of the Okefenokee or, simply wondering whether you should head out to the lake on a fishing expedition, this knowledge can not only come in handy, it could potentially be a life saver.

Rhododendrons have the unique ability to act as temperature gauges. As the air temperature rises, their leaves begin to unfurl. At 20 degrees they are completely closed and when the temperature reaches 60 degrees, they are completely open.

The common Field Cricket can be another accurate thermometer. All you have to do is count the number of chirps in 15 seconds, add 37 and you have the temperature where he is sitting. The Snowy Tree Cricket and the Katydid can also be used with slightly different formulas.